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<151> 2002-10-22

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<170> PatentIn Ver. 2.1

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45

Gly Leu Val Gln Trp Thr Lys Asp Gly Leu Ala Leu Gly Gly Glu Arg

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Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn Ser Ala Ser

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Gly Gln His Asp Leu His Ile Lys Pro Val Glu Leu Glu Asp Glu Ala

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Ser Tyr Glu Cys Gln Ala Ser Gln Ala Gly Leu Arg Ser Arg Pro Ala

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110

Gln Leu His Val Met Val Pro Pro Glu Ala Pro Gln Val Leu Gly Gly

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Pro Ser Val Ser Leu Val Ala Gly Val Pro Gly Asn Leu Thr Cys Arg

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Ser Arg Gly Asp Ser Arg Pro Ala Pro Glu Leu Leu Trp Phe Arg Asp

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155

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Gly Ile Arg Leu Asp Ala Ser Ser Phe His Gln Thr Thr Leu Lys Asp

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175

Lys Ala Thr Gly Thr Val Glu Asn Thr Leu Phe Leu Thr Pro Ser Ser

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His Asp Asp Gly Ala Thr Leu Ile Cys Arg Ala Arg Ser Gln Ala Leu

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Pro Thr Gly Arg Asp Thr Ala Val Thr Leu Ser Leu Gln Tyr Pro Pro

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Met Val Thr Leu Ser Ala Glu Pro Gln Thr Val Gln Glu Gly Glu Lys

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Val Thr Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr

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Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg

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Leu Glu Val Val Ala Asp Ala Thr Phe Leu Thr Glu Pro Val Ser Cys

275

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285

Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Glu

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Val Leu Tyr Gly Pro Ile Leu Gln Ala Lys Pro Lys Ser Val Ser Val

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Asp Val Gly Lys Asp Ala Ser Phe Ser Cys Val Trp Arg Gly Asn Pro

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Ser Gly Pro Thr Leu Arg Leu Pro Ser Val Ala Leu Glu Asp Ala Gly

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365

Asp Tyr Val Cys Arg Ala Glu Pro Arg Arg Thr Gly Leu Gly Gly Gly

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Lys Ala Gln Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala

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Glu Gly Phe Leu Glu Ala Gly Ser Leu Gly Arg Phe Leu Val Glu Ala

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Phe Pro Ala Pro Glu Val Glu Gly Gly Gln Gly Pro Gly Leu Ile Ser

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Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Thr Thr Gly Phe

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Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Arg Val Gln Ile His

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Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly Ala

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Ala Ser Ala Ala Thr Ser Leu Leu Met Val Ile Thr Gly Val Val Leu

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Cys Cys Trp Arg His Gly Ser Leu Ser Lys Gln Lys Asn Leu Val Arg

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Asp Leu Val Leu Glu Glu Lys Glu Ala Leu Glu Thr Lys Asp Pro Thr

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Asn Gly Tyr Tyr Lys Val Arg Gly Val Ser Val Ser Leu Ser Leu Gly

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Glu Ala Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro Ser Pro Ile Gly

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Val Pro Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr

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Pro His Pro Arg Ala Phe Thr Ser Tyr Met Lys Pro Thr Ser Phe Gly

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Pro Pro Asp Leu Ser Ser Gly Thr Pro Pro Phe Pro Tyr Ala Thr Leu

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Ser Pro Pro Ser His Gln Arg Leu Gln Thr His Val

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&lt;210&gt; 4

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Ala Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn Ser Ala Ser Gly Gln

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His Asp Leu His Ile Lys Pro Val Glu Leu Glu Asp Glu Ala Ser Tyr

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Glu Cys Gln Ala Ser Gln Ala Gly Leu Arg Ser Arg Pro Ala Gln Leu

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His Val Met Val Pro Pro Glu Ala Pro Gln Val Leu Gly Gly Pro Ser

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Val Ser Leu Val Ala Gly Val Pro Gly Asn Leu Thr Cys Arg Ser Arg

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Gly Asp Ser Arg Pro Ala Pro Glu Leu Leu Trp Phe Arg Asp Gly Ile

100 105 110

Arg Leu Asp Ala Ser Ser Phe His Gln Thr Thr Leu Lys Asp Lys Ala

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Thr Gly Thr Val Glu Asn Thr Leu Phe Leu Thr Pro Ser Ser His Asp

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Asp Gly Ala Thr Leu Ile Cys Arg Ala Arg Ser Gln Ala Leu Pro Thr

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150

155

160

Gly Arg Asp Thr Ala Val Thr Leu Ser Leu Gln Tyr Pro Pro Met Val

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170

175

Thr Leu Ser Ala Glu Pro Gln Thr Val Gln Glu Gly Glu Lys Val Thr

180

185

190

Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr Arg Trp

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Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg Leu Glu

210

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240

Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Glu Val Leu

245

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255

Tyr Gly Pro Ile Leu Gln Ala Lys Pro Lys Ser Val Ser Val Asp Val

1 3 / 3 9

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270

Gly Lys Asp Ala Ser Phe Ser Cys Val Trp Arg Gly Asn Pro Leu Pro

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Arg Ile Thr Trp Thr Arg Met Gly Gly Ser Gln Val Leu Ser Ser Gly

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Pro Thr Leu Arg Leu Pro Ser Val Ala Leu Glu Asp Ala Gly Asp Tyr

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Val Cys Arg Ala Glu Pro Arg Arg Thr Gly Leu Gly Gly Gly Lys Ala

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Gln Ala Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala Leu Gln

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Pro Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu Gln Cys Val Val

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Phe Leu Glu Ala Gly Ser Leu Gly Arg Phe Leu Val Glu Ala Phe Pro

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390

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400

1 4 / 3 9

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Ser Ala Arg Asn Arg Leu Gly Glu Gly Arg Val Gln Ile His Leu Gly

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Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val Ala Gly Ala Ala Ser

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Ala Ala Thr Ser Leu Leu Met Val Ile Thr Gly Val Val Leu Cys Cys

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Trp Arg His Gly Ser Leu Ser Lys Gln Lys Asn Leu Val Arg Ile Pro

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Gly Ser Ser Glu Gly Ser Ser Ser Arg Gly Pro Glu Glu Glu Thr Gly

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Ser Ser Glu Asp Arg Gly Pro Ile Val His Thr Asp His Ser Asp Leu

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Val Leu Glu Glu Lys Glu Ala Leu Glu Thr Lys Asp Pro Thr Asn Gly

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535

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Tyr Tyr Lys Val Arg Gly Val Ser Val Ser Leu Ser Leu Gly Glu Ala

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Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro Ser Pro Ile Gly Leu Pro

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Gly Thr Pro Thr Tyr Tyr Asp Phe Lys Pro His Gln Asp Leu Val Pro

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Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr Pro His

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Pro Arg Ala Phe Thr Ser Tyr Met Lys Pro Thr Ser Phe Gly Pro Pro

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&lt;400&gt; 5

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25

30

Leu Val Val Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly

35

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Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn

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19/39

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170

175

Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr

180

185

190

Pro Phe Ser His Asp Asp Gly Ala Thr Phe Val Cys Arg Ala Arg Ser

195

200

205

Gln Ala Leu Pro Thr Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln

210

215

220

Tyr Pro Pro Glu Val Thr Leu Ser Ala Ser Pro His Thr Val Gln Glu

20 / 39

225 230 235 240

Gly Glu Lys Val Ile Phe Leu Cys Gln Ala Thr Ala Gln Pro Pro Val

245 250 255

Thr Gly Tyr Arg Trp Ala Lys Gly Gly Ser Pro Val Leu Gly Ala Arg

260 265 270

Gly Pro Arg Leu Glu Val Val Ala Asp Ala Ser Phe Leu Thr Glu Pro

275 280 285

Val Ser Cys Glu Val Ser Asn Ala Val Gly Ser Ala Asn Arg Ser Thr

290 295 300

Ala Leu Asp Val Leu Phe Gly Pro Ile Leu Gln Ala Lys Pro Glu Pro

305 310 315 320

Val Ser Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg

325 330 335

Gly Asn Pro Leu Pro Arg Val Thr Trp Thr Arg Arg Gly Gly Ala Gln

340 345 350

Val Leu Gly Ser Gly Ala Thr Leu Arg Leu Pro Ser Val Gly Pro Glu

355 360 365

21 / 39

Asp Ala Gly Asp Tyr Val Cys Arg Ala Glu Ala Gly Leu Ser Gly Leu

370

375

380

Arg Gly Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val

385

390

395

400

Val Thr Ala Leu His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg

405

410

415

Leu Gln Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp

420

425

430

Ser Trp Asp Glu Gly Phe Leu Glu Ala Gly Ser Gln Gly Arg Phe Leu

435

440

445

Val Glu Thr Phe Pro Ala Pro Glu Ser Arg Gly Gly Leu Gly Pro Gly

450

455

460

Leu Ile Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser

465

470

475

480

Arg Ser Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Gly Ala

485

490

495

Gln Ala Ser Leu Gly Arg Arg Asp Leu Leu Pro Thr Val Arg Ile Val

500

505

510

Ala Gly Val Ala Ala Ala Thr Thr Thr Leu Leu Met Val Ile Thr Gly

515

520

525

Val Ala Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser

530

535

540

Glu Gln Lys Asn Leu Met Arg Ile Pro Gly Ser Ser Asp Gly Ser Ser

545

550

555

560

Ser Arg Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly

565

570

575

Pro Ile Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Lys Gly

580

585

590

Thr Leu Glu Thr Lys Asp Pro Thr Asn Gly Tyr Tyr Lys Val Arg Gly

595

600

605

Val Ser Val Ser Leu Ser Leu Gly Glu Ala Pro Gly Gly Gly Leu Phe

610

615

620

Leu Pro Pro Pro Ser Pro Leu Gly Pro Pro Gly Thr Pro Thr Phe Tyr

625

630

635

640

Asp Phe Asn Pro His Leu Gly Met Val Pro Pro Cys Arg Leu Tyr Arg

2 3 / 3 9

645

650

655

Ala Arg Ala Gly Tyr Leu Thr Thr Pro His Pro Arg Ala Phe Thr Ser

660

665

670

Tyr Ile Lys Pro Thr Ser Phe Gly Pro Pro Asp Leu Ala Pro Gly Thr

675

680

685

Pro Pro Phe Pro Tyr Ala Ala Phe Pro Thr Pro Ser His Pro Arg Leu

690

695

700

Gln Thr His Val

705

<210> 7

<211> 2976

<212> DNA

<213> Homo sapiens

<400> 7

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<210> 8

<211> 196

<212> PRT

<213> Homo sapiens

2.6 / 3.9

<400> 8

Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe

1 5 10 15

Arg Gly Arg Ala Gly Pro Ser Pro His Phe Leu Gln Gln Pro Glu Asp

20 25 30

Leu Val Val Leu Leu Gly Glu Glu Ala Arg Leu Pro Cys Ala Leu Gly

35 40 45

Ala Tyr Trp Gly Leu Val Gln Trp Thr Lys Ser Gly Leu Ala Leu Gly

50 55 60

Gly Gln Arg Asp Leu Pro Gly Trp Ser Arg Tyr Trp Ile Ser Gly Asn

65 70 75 80

Ala Ala Asn Gly Gln His Asp Leu His Ile Arg Pro Val Glu Leu Glu

85 90 95

Asp Glu Ala Ser Tyr Glu Cys Gln Ala Thr Gln Ala Gly Leu Arg Ser

100 105 110

Arg Pro Ala Gln Leu His Val Leu Val Pro Pro Glu Ala Pro Gln Val

115 120 125

Leu Gly Gly Pro Ser Val Ser Leu Val Ala Gly Val Pro Ala Asn Leu

27 / 39

130

135

140

Thr Cys Arg Ser Arg Gly Asp Ala Arg Pro Ala Pro Glu Leu Leu Trp

145

150

155

160

Phe Arg Asp Gly Val Leu Leu Asp Gly Ala Thr Phe His Gln Thr Leu

165

170

175

Leu Lys Glu Gly Thr Pro Gly Ser Val Glu Ser Thr Leu Thr Leu Thr

180

185

190

Pro Phe Gln Pro

195

<210> 9

<211> 1532

<212> DNA

<213> Homo sapiens

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cgacggcaaa tctcgtgaac cttgggggac gaatgctcag gatgcgggtc cccgccctcc 240  
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&lt;210&gt; 10

&lt;211&gt; 219

&lt;212&gt; PRT

29 / 39

<213> Homo sapiens

<400> 10

Met Leu Arg Met Arg Val Pro Ala Leu Leu Val Leu Leu Phe Cys Phe

1 5 10 15

Arg Gly Arg Ala Gly Pro Ser Pro His Phe Leu Gln Gln Pro Glu Asp

20 25 30

Leu Val Val Leu Leu Gly Glu Gly Gly Ala Gln Ala Ser Leu Gly Arg

35 40 45

Arg Ala Ser Ala Ser Phe Ser Glu Gln Lys Asn Leu Met Arg Ile Pro

50 55 60

Gly Ser Ser Asp Gly Ser Ser Ser Arg Gly Pro Glu Glu Glu Glu Thr

65 70 75 80

Gly Ser Arg Glu Asp Arg Gly Pro Ile Val His Thr Asp His Ser Asp

85 90 95

Leu Val Leu Glu Glu Glu Gly Thr Leu Glu Thr Lys Asp Pro Thr Asn

100 105 110

Gly Tyr Tyr Lys Val Arg Gly Val Ser Val Ser Leu Ser Leu Gly Glu

115 120 125

Ala Pro Gly Gly Gly Leu Phe Leu Pro Pro Pro Ser Pro Leu Gly Pro

130

135

140

Pro Gly Thr Pro Thr Phe Tyr Asp Phe Asn Pro His Leu Gly Met Val

145

150

155

160

Pro Pro Cys Arg Leu Tyr Arg Ala Arg Ala Gly Tyr Leu Thr Thr Pro

165

170

175

His Pro Arg Ala Phe Thr Ser Tyr Ile Lys Pro Thr Ser Phe Gly Pro

180

185

190

Pro Asp Leu Ala Pro Gly Thr Pro Pro Phe Pro Tyr Ala Ala Phe Pro

195

200

205

Thr Pro Ser His Pro Arg Leu Gln Thr His Val

210

215

&lt;210&gt; 11

&lt;211&gt; 26

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 11

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26

<210> 12

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 12

acggaatgat gt

12

<210> 13

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 13

gtccatcttc tctctgagac tctggt

26

<210> 14

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 14

accagagtct ca

12

<210> 15

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 15

ctgatgggtg tcttctgtga gtgtgt

26

<210> 16

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 16

acacactcac ag

12

<210> 17

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 17

ccagcatcga gaatcagtgt gacagt

26

<210> 18

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 18

actgtcacac tg

12

<210> 19

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 19

gtcgatgaac ttcgactgtc gatcgt

26

<210> 20

<211> 12

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:adapter for  
cDNA amplification

<400> 20

acgatcgaca gt

12

<210> 21

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer for RACE  
method

<400> 21

ggcttttacac tttatgcttc cggttc

26

<210> 22

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer for RACE  
method

<400> 22

cagctatgac catgattacg ccaagc

26

<210> 23

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer for RACE

method

<400> 23

aggcgattaa gttgggtaac gccagg

26

<210> 24

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer for RACE

method

<400> 24

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26

<210> 25

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer for RACE  
method

<400> 25

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26

<210> 26

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer for RACE  
method

<400> 26

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26

<210> 27

<211> 26

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer for RACE  
method

<400> 27

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26

<210> 28

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer for RACE  
method

<400> 28

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26